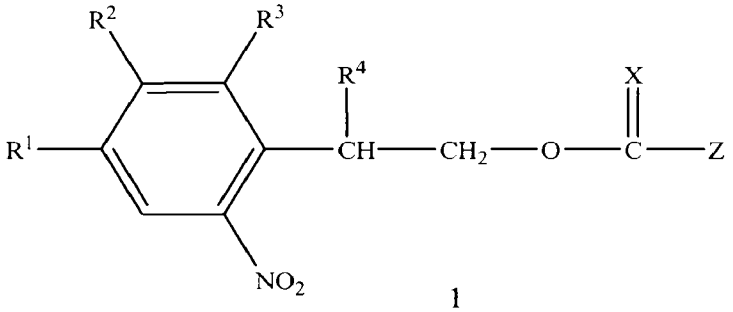
IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A compound having the formula (1):



1

wherein

R^1 is selected from the group consisting of H, NO_2, CN, OCH_3, a halogen, an alkyl having up to 4 carbon atoms, and an alkoxyl having up to 4 carbon atoms;

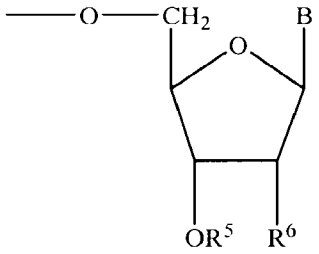
R^2 is selected from the group consisting of an aryl group, a substituted aryl group, a heteroaryl group, substituted heteroaryl group, an aroyl group, and a substituted aroyl group;

R^3 is selected from the group consisting of H, NO_2 and a halogen;

R^4 is selected from the group consisting of H, OCH_3 and an alkyl group having up to 4 carbon atoms;

X is selected from the group consisting of oxygen and sulfur; and

Z is selected from the group consisting of a leaving group, an alcoholate group, -OH, a N-atom of an amine compound, a deoxyribonucleoside and a ribonucleoside as represented by either of the following formulae (2) or (3):



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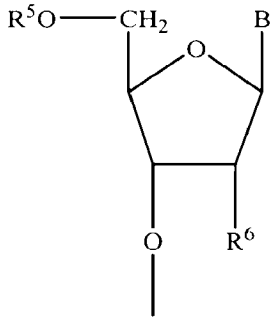

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wherein

R^5 is selected from the group consisting of a H, an oligonucleotide, a phosphitamidite group and a protecting group ~~functional group useful in oligonucleotide synthesis~~;

R^6 is selected from the group consisting of H, OH , an alkoxyl having up to 4 carbon atoms, an alkenoxyl group having up to 4 carbon atoms, a substituted alkenoxyl group having up to 4 carbon atoms, or R^6 is WR^8 wherein W is selected from oxygen and sulfur and R^8 is a protective group useful in oligonucleotide synthesis;

B is a base selected from the group consisting of adenine, cytosine, guanine, thymine, and uracil ~~and chemical modifications thereof~~, and when B is any one of adenosine, cytosine and guanine the amino functions on the heterocycle may bear a protective group useful in oligonucleotide synthesis~~; or~~

~~Z is selected from the group consisting of a chemically modified deoxyribonucleoside, a chemically modified ribonucleoside, and an analog thereof~~.

Claim 2 (Canceled).

Claim 3 (Previously Presented): The compound of claim 1, wherein R^1 is H and R^2 is phenyl or substituted phenyl.

Claim 4 (Previously Presented): The compound of claim 1, wherein R^1 is H and R^2 is benzoyl or substituted benzoyl.

Claim 5 (Previously Presented): The compound of claim 1 wherein W is O and R^8 is selected from the group consisting of an alkyl, alkenyl, acetal and silylether protective group.

Claim 6 (Previously Presented): The compound of claim 1, wherein W is S and R^8 is an alkyl protective group.

Claim 7 (Previously Presented): The compound of claim 1, wherein R^6 is selected from the group consisting of an O-methyl, O-ethyl, O-allyl, O-tetrahydropyranyl- O-methoxytetrahydropyranyl and an O-t-butyldimethylsilyl.

Claim 8 (Previously Presented): The compound of claim 1, wherein B is selected from the group consisting of adenine, cytosine and guanine and wherein R^8 is selected from the group consisting of phenoxyacetyl, 4-tert-butyl-phenoxyacetyl, 4-isopropyl-phenoxyacetyl and dimethylformamidino.

Claim 9 (Previously Presented): The compound of claim 1, wherein B is adenine and is selected from the group consisting of benzoyl and p-nitrophenyloxycarbonyl (p-NPEOC).

Claim 10 (Previously Presented): The compound of claim 1, wherein B is guanine and wherein R^8 is selected from the group consisting of isobutyroyl and p-nitrophenylethyloxycarbonyl (p-NPEOC).

Claim 11 (Previously Presented): The compound of claim 1, wherein B is cytosine and wherein R^8 is selected from the group consisting of benzoyl, isobutyroyl and p-nitrophenylethyloxycarbonyl (p-NPEOC).

Claim 12 (Currently Amended): The compound of claim 1, wherein R^5 is a ~~phosphitamide~~ phosphitamidite group.

Claim 13 (Previously Presented): The compound of claim 1, wherein R^5 is an OH-protective group.

Claim 14 (Previously Presented): The compound of claim 13, wherein R^5 is a dimethoxytrityl- or a monomethoxytrityl- group.

Claim 15 (Original): The compound of claim 13, wherein R^5 is a silyl-group.

Claim 16 (Previously Presented): The compound of claim 1, wherein Z is a leaving group.

Claim 17 (Previously Presented): The compound of claim 16, wherein the leaving group is selected from the group consisting of chloride, imidazolyl and nitrophenoxyl.

Claims 18-23 (Canceled)

Claim 24 (Withdrawn-Currently Amended): A method for the light-controlled synthesis of oligonucleotides, wherein said method is comprised of the following steps:

a) attaching, as a first building block, a nucleoside or nucleotide of claim 1 comprising the photolabile protective group at its primary hydroxyl group, to a support via its 3' secondary hydroxyl group;

b) irradiating the support-bound nucleoside or nucleotide resulting from step a), such that the protective group at the primary hydroxyl group is removed, thereby deprotecting the primary hydroxyl group;

c) reacting the support-bound nucleotide resulting from step b) in the presence of an activator with a second nucleotide selected from claim 12 comprising a protective group at its primary hydroxyl group and phosphoramidite functional group at its 3' secondary hydroxyl group, to form an internucleosidic phosphorous linkage;

d) optionally capping unreacted primary hydroxyl groups with an inert alcohol protecting group;

e) oxidizing the internucleosidic phosphorous linkage to the naturally occurring pentavalent state;

f) iterating steps b) to d) while successively applying the phosphoramidite building blocks in a predetermined order until the desired oligonucleotide strand is completed; and

g) removing of all nucleobase and phosphate protective groups.

Claim 25 (Withdrawn-Currently Amended): A method for the light-controlled synthesis of oligonucleotides, wherein said method is comprised of the following steps:

a) attaching, [[a]] as a first building block, a nucleoside or nucleotide of claim 1 comprising the photolabile protective group at its 3' secondary hydroxyl group, to a support via its primary hydroxyl group;

b) irradiating the support-bound nucleotide resulting from step a), such that the protective group at the secondary hydroxyl group is removed, thereby deprotecting the 3' secondary hydroxyl group;

c) reacting the support-bound nucleotide resulting from step b) in the presence of an activator with a second nucleotide selected from claim 12 comprising a protective group at its 3' secondary hydroxyl group and a phosphoramidite functional group at its primary hydroxyl group, to form an internucleosidic phosphorous linkage;

d) optionally capping unreacted secondary hydroxyl groups with an inert alcohol protecting group;

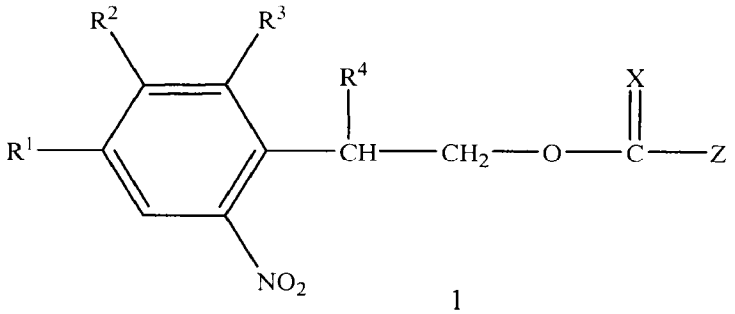
e) oxidizing the internucleosidic phosphorous linkage to the naturally occurring pentavalent state;

f) iterating steps b) to d) while successively applying the phosporamidite building blocks in a predetermined order until the desired oligonucleotide strand is completed; and

g) removing of all nucleobase and phosphate protective groups.

Claims 26-29 (Canceled).

Claim 30 (Currently Amended): A compound having the formula (1):



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wherein

R^1 is COOY, wherein Y is selected from the group consisting of an alkyl group of up to 10 carbon atoms,

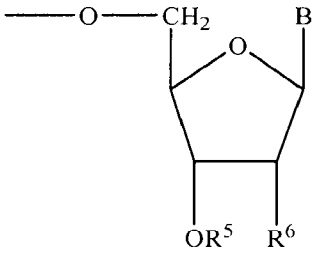
R^2 is selected from the group consisting of H, NO_2, CN, OCH_3, a halogen, an alkyl having up to 4 carbon atoms, an alkoxyl having up to 4 carbon atoms;

R^3 is selected from the group consisting of H, NO_2 and halogen;

R^4 is selected from the group consisting of OCH_3, an alkyl group having up to 4 carbon atoms and an optionally substituted alkyl group having up to 4 carbon atoms;

X is selected from the group consisting of oxygen or sulfur; and

Z is selected from the group consisting of a leaving group, an alcoholate, -OH_2, a N-atom of an amine compound, a deoxyribonucleoside and a ribonucleoside as represented by either of the following formulae (2) or (3):



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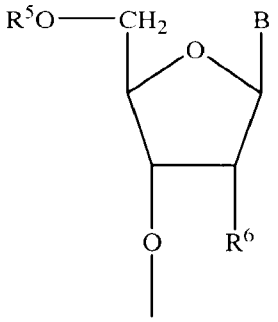

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wherein

R^5 is selected from the group consisting of a H, an oligonucleotide, a phosphitamidite group and a protecting group ~~functional group useful in oligonucleotide synthesis~~;

R^6 is selected from the group consisting of H, OH, an alkoxyl having up to 4 carbon atoms, an alkenoxyl having up to 4 carbon atoms, or a substituted alkenoxyl having up to 4 carbon atoms, or R^6 is WR^8 wherein W is selected from oxygen and sulfur and R^8 is selected from a protective group useful in oligonucleotide synthesis;

B is base selected from the group consisting of adenine, cytosine, guanine, thymine, and uracil, ~~and chemical modifications thereof~~ and in the case of adenosine, cytosine and

guanine the amino functions on the heterocycle may bear a protective group useful in oligonucleotide synthesis~~; or~~

~~Z is selected from the group consisting of a chemically modified deoxyribonucleoside, a chemically modified ribonucleoside, and an analog thereof~~.

Claim 31 (Previously Presented): The compound of claim 30, wherein Y is an alkyl group selected from the group consisting of methyl and tertiary-butyl, and R^2 is H.

Claim 32 (Previously Presented): The compound of claim 30 wherein W is O and R^8 is selected from the group consisting of an alkyl, alkenyl, acetal and silylether protective group.

Claim 33 (Previously Presented): The compound of claim 30 wherein W is S and R^8 is selected from the group consisting of an alkyl protective group.

Claim 34 (Previously Presented): The compound of claim 30, wherein R^6 is selected from the group consisting of an O-methyl, O-ethyl, O-allyl, O-tetrahydropyranyl- O-methoxytetrahydropyranyl and an O-t-butyldimethylsilyl.

Claim 35 (Previously Presented): The compound of claim 30, wherein B is selected from the group consisting of adenine, cytosine and guanine and said protective group is selected from the group consisting of phenoxyacetyl, 4-tert-butyl-phenoxyacetyl, 4-isopropyl-phenoxyacetyl and dimethylformamidino.

Claim 36 (Previously Presented): The compound of claim 30, wherein B is adenine and the protective group is selected from the group consisting of benzoyl and p-nitrophenyloxycarbonyl (p-NPEOC).

Claim 37 (Previously Presented): The compound of claim 30, wherein B is guanine and the protective group is selected from the group consisting of isobutyroyl and p-nitrophenylethyloxycarbonyl (p-NPEOC).

Claim 38 (Previously Presented): The compound of claim 30, wherein B is cytosine and the protective group is selected from the group consisting of benzoyl, isobutyroyl and p-nitrophenylethyloxycarbonyl (p-NPEOC).

Claim 39 (Currently Amended): The compound of claim 30, wherein R^5 is a ~~phosphitamide~~ phosphitamidite group.

Claim 40 (Previously Presented): The compound of claim 30, wherein R^5 is an OH-protective group.

Claim 41 (Previously Presented): The compound of claim 40, wherein R^5 is selected from a dimethoxytrityl- or a monomethoxytrityl- group.

Claim 42 (Previously Presented): The compound of claim 40, wherein R^5 is a silyl-group.

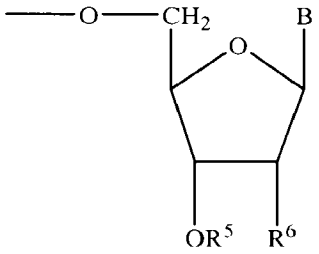
Claim 43 (Previously Presented): The compound of claim 30, wherein Z is a leaving group.

Claim 44 (Previously Presented): The compound of claim 43, wherein the leaving group is selected from the group consisting of chloride, imidazolyl and nitrophenoxyl.

Claim 45 (Previously Presented): The compound of claim 31, wherein Z is a leaving group.

Claim 46 (Previously Presented): The compound of claim 45, wherein the leaving group is selected from the group consisting of chloride, imidazolyl and nitrophenoxyl.

Claim 47 (Previously Presented): The compound of claim 1, wherein Z is a deoxyribonucleoside or a ribonucleoside represented by formulae (2) or (3):



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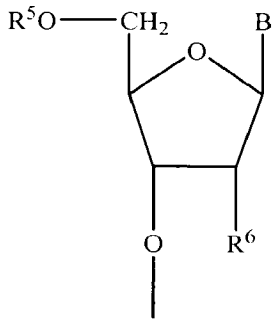

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wherein R^5 is selected from the group consisting of a H and an oligonucleotide;

R^6 is selected from the group consisting of H, OH , an alkoxyl having up to 4 carbon atoms, an alkenoxyl group having up to 4 carbon atoms, a substituted alkenoxyl group having up to 4 carbon atoms, or R^6 is WR^8 wherein W is selected from oxygen and sulfur and R^8 is a protective group;

B is selected from the group consisting of adenine, cytosine, guanine, thymine and uracil.

Claim 48 (Previously Presented): The compound of claim 1, wherein Z is selected from the group consisting of a deoxyribonucleoside and a ribonucleoside.

Claim 49 (Previously Presented): The compound of claim 1, wherein Z is selected from the group consisting of an alcoholate group, -OH and an amine.

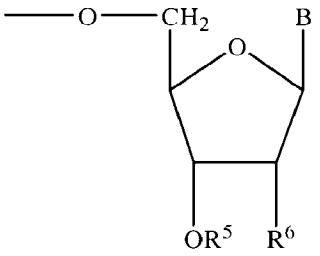
Claim 50 (Previously Presented): The compound of claim 1, wherein

R^2 is a phenyl group;

R^4 is a hydrogen atom or an alkyl group having up to 4 carbon atoms;

X is O;

and Z is a deoxyribonucleoside or a ribonucleoside represented by formulae (2) or (3):



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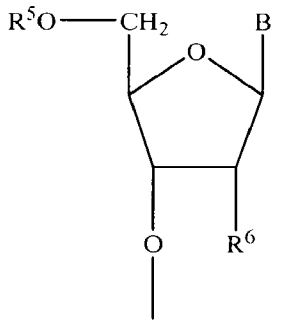

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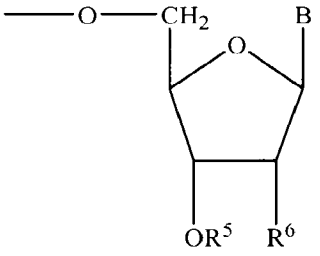
wherein R^5 is H;

R^6 is selected from the group consisting of H, OH , an alkoxyl having up to 4 carbon atoms, and an alkenoxyl group having up to 4 carbon atoms; and

B is selected from the group consisting of adenine, cytosine, guanine, thymine and uracil.

Claim 51 (Previously Presented): The compound of claim 30, wherein Z is a deoxyribonucleoside or a ribonucleoside represented by formulae (2) or (3):



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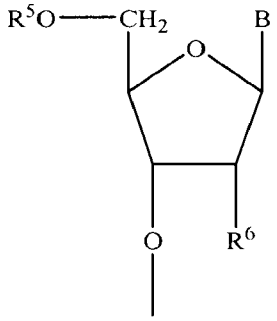

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wherein R^5 is selected from the group consisting of a H and an oligonucleotide;

R^6 is selected from the group consisting of H, OH , an alkoxyl having up to 4 carbon atoms, an alkenoxyl group having up to 4 carbon atoms, a substituted alkenoxyl group having up to 4 carbon atoms, or R^6 is WR^8 wherein W is selected from oxygen and sulfur and R^8 is a protective group;

B is selected from the group consisting of adenine, cytosine, guanine, thymine and uracil.

Claim 52 (Previously Presented): The compound of claim 30, wherein Z is selected from the group consisting of a deoxyribonucleoside and a ribonucleoside.

Claim 53 (Previously Presented): The compound of claim 30, wherein Z is selected from the group consisting of an alcoholate group, -OH and an amine.

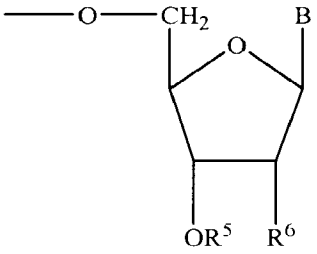
Claim 54 (Previously Presented): The compound of claim 30, wherein

R^2 is a phenyl group;

R^4 is a hydrogen atom or an alkyl group having up to 4 carbon atoms;

X is O;

and Z is a deoxyribonucleoside or a ribonucleoside represented by formulae (2) or (3):



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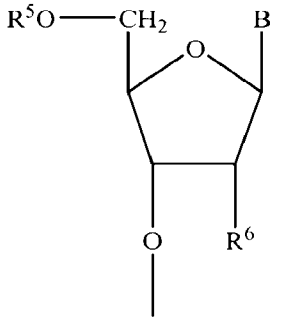

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wherein R^5 is H;

R^6 is selected from the group consisting of H, OH , an alkoxyl having up to 4 carbon atoms, and an alkenoxyl group having up to 4 carbon atoms; and

B is selected from the group consisting of adenine, cytosine, guanine, thymine and uracil.

Claim 55 (Previously Presented): The compound of claim 1, wherein R^1 and R^3 are selected from the group consisting of H and NO_2, wherein R^1 and R^3 are not both NO_2;

R^2 is selected from the group consisting of a phenyl group and a benzoyl group;

R^4 is selected from the group consisting of a methyl group and an ethyl group; and

X is oxygen.

Claim 56 (Previously Presented): The compound of claim 55, wherein Z is a deoxyribonucleoside;

R^6 = H; and

B is selected from the group consisting of adenine, cytosine, guanidine, thymine and uracil.

Claim 57 (Previously Presented): The compound of claim 1, wherein Z is a deoxyribonucleoside;

R^6 = H; and

B is selected from the group consisting of adenine, cytosine, guanidine, thymine and uracil.